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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,409	09/23/2004	Christoph Gerard August Hoelen	NL 020264	8032
24737 7590 08/21/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
LEE, Y'MY QUACH				
ART UNIT		PAPER NUMBER		
2885				
MAIL DATE		DELIVERY MODE		
08/21/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/509,409

Applicant(s)

HOELEN ET AL.

Examiner

Y M. Lee

Art Unit

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 7-9 and 11-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 is/are allowed.
- 6) ☒ Claim(s) 1, 3, 7-9, 11-16 and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

Response to Arguments

1. Applicant's comments with respect to amended claim 1 filed have been fully considered but they are not persuasive in view of the new ground(s) of objection and rejection. The indicated allowability of claims 18 to 20 is withdrawn upon further reviewing of the specification.

Claim Objections

2. Claims 1, 3, 7 to 9 and 11 to 16 are objected to because of the following formalities: In claim 1, the language "a light guide part providing directional light extraction" is misdescriptive and or inaccurate. According to the specification, page 14, lines 13 to 18, the rear wall of the light emitting panel 1 is provided at the bidirectional light extracting light guide part 120 with a structure 30 (multiple steps 130 substantially parallel to the front wall figure 4 or structure 30 figure 5) to extract light by disrupting total internal reflection locally. In view of this description, the structure 30 extracts light, and the light guide part without the structure is not providing bidirectional light extraction. In claim 7, there is no clear antecedent basis for "the steps". Also, there is no proper structural cooperation between a surface of the steps and the elements of claim 1. Claims 3, 8, 9 and 11 to 16 depend on objected claim 1 and as such are also objected. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 13, 15, 16 and 21 are rejected under 35 U.S.C. 102(c) as being anticipated by Keuper et al.

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Keuper et al. show a light emitting panel (1) comprising a front wall (2), a rear wall (3) situated opposite to the front wall, a first edge surface (4) being light transmitted, a second edge surface (5) opposite the first edge surface, the surface of the second edge surface having a specularly or diffusely reflecting material (column 9, lines 45 to 48, 56 to 58), between the widening section and the second edge surface a light guide part providing bidirectional light extraction (figure 1, 3a), a ratio of the surface area S_1 of the first edge (the vertical surface area of the first edge) and the largest cross section S_{lsc} (the largest vertical cross section of the second edge) in the light emitting panel substantially parallel to the first edge surface satisfying the relation $1.5 < S_{lsc}/S_1 < 3$ which is within the ratio $1.5 < S_r/S_i < 5$ (column 8, lines 45 to 50), at least a first light source (6) associated with the first edge surface, the light source comprising at least two light emitting diodes with different light emission wavelengths (6R, 6G, 6B), light originating from the first light source incident on the first edge surface and distributed in the panel, the panel widens over a widening section from the first edge surface in a direction towards the second edge surface (figure 1), a display device (12) comprising a liquid crystal display (column 8, line 31), and a ratio of the surface area S_1 of the first edge (the vertical surface area of the first edge) and the largest cross section S_{lsc} (the largest vertical cross section of the second edge) in the light emitting panel substantially parallel to the first edge surface satisfying the relation $1 < S_{lsc}/S_1 < 10$ (column 7, lines 43 to 47).

5. Claims 1, 7, 8, 11 to 13, 15, 16 and 18 to 21 are rejected under 35 U.S.C. 102(a) as being anticipated by Osumi (JP 2001-281456, prior art previously cited).

Osumi shows a light emitting panel (14, figure 2) comprising a front wall (14B), a rear wall (14C) situated opposite to the front wall, a first edge surface (14A) being light transmitted, a second edge surface (14F) opposite the first edge surface such that the second edge surface is reflecting with respect to light inside the panel, the surface of the second edge surface having a specularly or diffusely reflecting material (17), at least a first light source (15) associated with the first edge surface, the light source comprising at least two light emitting diodes with different light emission wavelengths (15A, 15B), light originating from the first light source incident on the first edge surface and distributed in the panel, the panel comprising between the widening section and the second edge surface a light guide part providing bidirectional light extraction

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(figure 2A, 2B) provided with a structure at the rear wall formed of multiple steps (14E) to extract light by disrupting total internal reflection locally and of which a surface facing the front wall is substantially parallel to the front wall (figure 2A, 2B), a further surface (14D) of the steps making an angle (θ_1) of 45 degrees with respect to a normal on the front wall which is within the range of $-48 \leq \beta \leq 48$ or $0 \leq \beta \leq 48$ degrees, a display device comprising a liquid crystal display (LCD 2), and a ratio of the surface area S_1 of the first edge (the vertical surface area of the first edge) and the largest cross section S_{1bc} (the largest vertical cross section of the second edge) in the light emitting panel substantially parallel to the first edge surface satisfying the relation $1 < S_{1cs}/S_1 < 10$ (figure 2, the largest vertical cross section of the second edge is about 3 times larger than the first vertical surface area, the ratio is 3 to 1 which is within the ratio as claimed).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Osumi (JP 2001-281456, prior art previously cited).

Osumi discloses the invention substantially as claimed with the exception of having the ratio as claimed in 3.

It would have been obvious to one skilled in the art to include Osumi with the ratio as claimed so that light can be optimally conducted within the light emitting panel to evenly distribute and enhance the light qualities across the light emitting surface, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skilled in the art. *In re Aller*, 105 USPQ 233.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keuper et al. and Osumi (JP 2001-281456, prior art previously cited) in view of Lammers (prior art previously cited).

Keuper et al. and Osumi disclose the invention substantially as claimed with the exception of disclosing the front wall provided with a translucent diffuser.

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Lammers teaches that it is known in the art to have the front wall provided with a translucent diffuser.

It would have been obvious to one skilled in the art to provide the front wall of Keuper et al. and Osumi with a translucent diffuser, as shown by Lammers, to diffuse and uniform the light coupled out from the wall.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keuper et al. and Osumi (JP 2001-281456, prior art previously cited) in view of Lammers (prior art previously cited).

Keuper et al. and Osumi disclose the invention substantially as claimed with the exception of having the light emitting diode at least 5 lm.

Lammers teaches that it is known in the art to use light emitting diode having at least 5 lm (column 9, lines 2 to 3) in light emitting panel display device.

It would have been obvious to one skilled in the art to provide the light emitting diode of Keuper et al. and Osumi with at least 5 lm, as shown by Lammers, for the advantage of enabling the light to be coupled into the light emitting panel with a higher efficiency, hardly emitting heat as well as issuing detrimental radiation, and to overall provide a compact illumination system.

10. Claim 17 is allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y Quach Lee whose telephone number is 571-272-2373. The examiner can normally be reached on Monday to Thursday from 8:30 am to 2:30 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service 571-272-2815.

Y. Q.
August 14, 2008

/Y M. Lee/
Primary Examiner, Art Unit 2885

